

TABLE 3.—1997 AND 2015 PM<sub>10</sub> TOTAL EMISSION INVENTORY FOR WOOD STOVES/INSERTS AND FIREPLACES IN POUNDS PER WINTER DAY FOR ASPEN/PITKIN COUNTY

	Wood stoves/ inserts	Fireplaces
1997 .....	84	233
2015 .....	112	233

\* 1997 emissions from wood stoves/inserts were increased by 33.1% based on Pitkin County population projections to determine 2015 emissions.

\*\* Fireplace emissions were held at 1997 levels due to a city/county cap on new fireplace construction.

More detailed descriptions of the 1997 attainment year inventory and the 2015 projected inventory are documented in the maintenance plan in chapter 3, section B and in the Colorado technical support documentation. Colorado's submittal contains detailed emission inventory information that was prepared in accordance with EPA emission inventory guidance.<sup>1</sup> Following our review, we have determined that Colorado prepared an adequate attainment inventory for the area.

#### b. Maintenance Demonstration

A State may generally demonstrate maintenance of the NAAQS by either showing that future emissions of a pollutant or its precursors will not exceed the level of the attainment inventory, or by modeling to show that the future mix of sources and emission rates will not cause a violation of the NAAQS. Colorado chose the modeling approach for the Aspen area.

The maintenance demonstration for the Aspen area uses the chemical mass balance (CMB) roll-forward methodology, which is the same level of modeling used in the original attainment demonstration for the moderate PM<sub>10</sub> SIP for this area. The CMB receptor model data are used to identify the sources of emissions that influence PM<sub>10</sub> concentrations in the area. Colorado used the attainment inventories to further refine the CMB source identification and then apportion the design day concentration. The design day concentration was determined using EPA's "Table look-up" method. Based on the number of samples collected during a three year period from 1996–1998<sup>2</sup> (1005

samples), the third highest concentration measured during that period is used as the design value. Because the third highest concentration measured during that period occurred outside of the traditional late winter/early spring high pollution season, the second highest concentration of 89 µg/m<sup>3</sup> was selected as the design value for this redesignation request and maintenance plan. Colorado prepared a maintenance inventory for the year 2015 and rolled forward the design day concentration based on the changes that occurred in the emission inventory from the attainment year to the maintenance year. Based on this process, the Aspen 2015 maintenance concentration is 130 µg/m<sup>3</sup>. Since these 2015 projections for Aspen are below the 24-hour PM<sub>10</sub> NAAQS of 150 µg/m<sup>3</sup>, maintenance is demonstrated.

Although EPA would normally insist on some interim year projections between the attainment year and 2015, we have no reason to believe that total emissions will be greater than the 2015 projections in any of the interim years. Colorado applied simple, environmentally conservative, growth rates to all source categories. Thus, total emissions in all years before 2015 should be less than 2015 total emissions and no interim year projections are required.

Since no violations of the annual PM<sub>10</sub> NAAQS have ever occurred in Aspen and since the maintenance demonstration clearly shows

the highest design value for developing the maintenance plan, and the higher the design value, the higher the predicted concentration in the maintenance year. In other words, the State's approach was conservative. Use of TEOM data alone would have resulted in a lower design value, and thus, a lower predicted concentration in the maintenance year. Although the TEOM monitor recorded a value of 109 µg/m<sup>3</sup> in 1999—a higher value than the three highest Hi-vol values in 1996–1998—the use of the 1999 TEOM data would not have altered the design value. This is because the high three values from both monitors would have fallen within the high pollution season, and the 3rd high—89 µg/m<sup>3</sup>—would've been the appropriate design value. Colorado used the TEOM monitoring method for data collected from 1998–2000 to demonstrate attainment because to demonstrate attainment, the latest 3 years of data must be used, and the TEOM is an equivalent monitoring method.

maintenance of the 24-hour PM<sub>10</sub> NAAQS in this area through the year 2015, it is reasonable and adequate to assume that protection of the 24-hour standard will be sufficient to protect the annual standard as well. Thus, EPA believes Colorado has adequately demonstrated that the Aspen area will maintain the PM<sub>10</sub> NAAQS for at least the next ten years.

#### i. Control Strategy

According to the Calcagni memorandum, any assumptions concerning emission rates must reflect permanent, enforceable measures. A State can't take credit in the maintenance demonstration for reductions unless there are regulations in place requiring those reductions or the reductions are otherwise shown to be permanent. States are expected to maintain implemented control strategies despite redesignation to attainment, unless such measures are shown to be unnecessary for maintenance or are replaced with measures that achieve equivalent reductions. In preparing the Aspen PM<sub>10</sub> maintenance plan, Colorado has chosen to retain the street sand specifications, street sweeping requirements, paid parking provisions, and woodburning and restaurant emissions requirements previously included in the SIP, with some minor revisions which are explained in more detail below.

Colorado is making minor revisions to the materials applicability section (III.C.1.a and III.C.2.a, "Applicability") of the street sanding and street sweeping requirements (contained in the State Implementation Plan—Specific Regulations for Nonattainment—Attainment/Maintenance Areas (Local Areas)). These minor revisions delete language specific to salt and de-icing material making the language consistent with the SIP's federally approved definition of "Street Sanding Materials" which excludes salt and other de-icing chemicals. Since these changes do not change the enforceability of the street sanding or street sweeping control measures and make the language consistent with the SIP's federally

<sup>1</sup> EPA's current guidance on the preparation of PM<sub>10</sub> emission inventories includes, "PM<sub>10</sub> Emission Inventory Requirements," September 1994, "Emission Inventory Improvement Program Technical Report Series, Volumes I–VII," July 1997 and September 1999, "Revised 1999 National Emission Inventory Preparation Plan," February 2001.

<sup>2</sup> Colorado used years 1996–1998 instead of 1998–2000 to develop the design value because there were data completeness issues with their Hi-vol data in 1999 and 2000. Using the Hi-vol data from 1996–1998 to calculate the design value resulted in